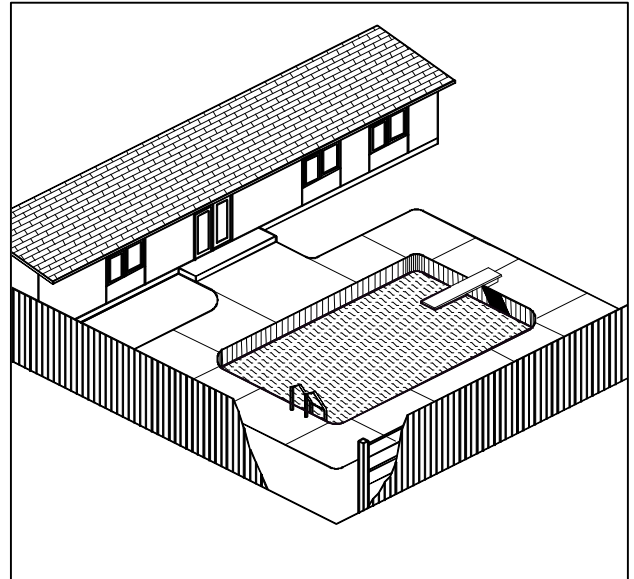


# SWIMMING POOLS

## A GUIDE FOR HOMEOWNERS INSTALLING SWIMMING POOLS

This pamphlet provides guidelines for homeowners installing in-ground or above-ground swimming pools on their single family lot. Compliance with minimum requirements and approved plans is subject to verification and inspection.



## WHAT REGULATIONS GOVERN SWIMMING POOL CONSTRUCTION

### THE CODE OF VIRGINIA

The *Code of Virginia* requires that your pool or any new structure on your property comply with the Virginia Uniform Statewide Building Code (VUSBC). By reviewing plans, issuing permits, and performing field inspections, the Department of Public Works and Environmental Services (DPWES), and the Office of Building Code Services (OBCS) help you comply with the provisions of the law.

### VIRGINIA UNIFORM STATEWIDE BUILDING CODE

Fairfax County is required to enforce the VUSBC, which incorporates by reference the Council of American Building Officials (CABO) One and Two Family Dwelling Code, the CABO Model Energy Code, the Building Officials and Code Administrators (BOCA) National Building Code, the International Mechanical Code, the International Plumbing Code, and the National Electrical Code. These Codes may be purchased from Maps and Publications, located in the Government Center, 12000 Government Center Parkway, Suite 156, Fairfax, Virginia, 22035, telephone **703-324-2974**.

### ZONING REQUIREMENTS

Check with the Zoning Permit Review Branch at **703-222-1082** to determine minimum yard and other zoning-related requirements. Minimum yard (setback) requirements, as set forth in the County Zoning Ordinance, represent the minimum distances from the property boundary lines that are required for the location of a pool.

## THE PERMIT APPLICATION CENTER OFFICE OF BUILDING CODE SERVICES

#### Hours of Operation for Walk-in Customers:

Mon. - Thu. 8:00 a.m. - 4:00 p.m.  
Fri. 9:15 a.m. to 4:00 p.m.

Other publications and forms are  
available on the DPWES website:

[www.co.fairfax.va.us/dpwes](http://www.co.fairfax.va.us/dpwes)



Herrity Building  
12055 Government Center Parkway  
Fairfax, Virginia 22035  
Telephone: 703-222-0801  
TTY: 703-324-1877

Telephone Hours: 8:00 a.m. to 4:30 p.m.

## HEALTH DEPARTMENT REQUIREMENTS

Check with the Health Department at **703-246-2201** to determine requirements pertaining to construction on lots served by a septic system or private well. Appropriate clearances from the septic system or well must be maintained. The Health Department is located at 10777 Main Street, Fairfax, Virginia 22030.

## COVENANTS AND DEED RESTRICTIONS

Many of the subdivisions and developments in Fairfax County have private deed restrictions and covenants regulating construction beyond the limitations contained in County Ordinances. These amount to contractual agreements and thus the County does not enforce covenants and deed restrictions and is not always aware of their existence. Should you have questions about your development's restrictions, you may obtain information from your homeowners' association, civic association, or the Land Records Office at the Jennings Building (Judicial Center), Third Floor, 4110 Chain Bridge Road, Fairfax, Virginia, telephone **703-591-8580**.

## CHESAPEAKE BAY PRESERVATION ORDINANCE

This ordinance was enacted to protect the Chesapeake Bay, one of the world's most productive estuaries, from pollution due to land use and development. All of Fairfax County runoff drains into the Potomac River and ultimately the Chesapeake Bay. In an effort to protect and improve the quality of the bay, its tributaries and state waters, Fairfax County is designated as a Chesapeake Bay Preservation Area. As a result, all construction is reviewed to guarantee that the land-disturbing activity conforms to the performance criteria set forth by the ordinance. Check with the Office of Site Development Services at **703-324-1720** for more information regarding the requirements of the Chesapeake Bay Preservation Ordinance.

## CONSERVATION AGREEMENT

If the pool construction disturbs more than 2500 square feet or blocks existing drainage patterns, then a grading plan and a Conservation Agreement are required. The Conservation Agreement guarantees that erosion and sediment control measures on the grading plan are installed and maintained, and it also guarantees that the lot will be graded according to the approved grading plan. When construction is completed and the county site inspectors have approved the site, the conservation deposit will be returned, provided that the county has not expended funds to correct violations of erosion and sediment control regulations.

Two copies of a completed Conservation Agreement and a deposit are required to be submitted to the Site Permits Section prior to the release of the approved grading plan. Conservation Agreement forms can be obtained at the Herrity Building at Plan Control in Room 111 and the Site Permits Section, telephone **703-324-1510**, on the 2nd floor.

## **WHAT PERMITS ARE REQUIRED**

The five types of permits that may be required, depending upon the complexity of the project, are as follows:

- ! A ***building permit*** is required for construction of all swimming pools.
- ! An ***electrical permit*** is required for all electrical installations such as electrical pumps, heaters, circuits, motors and switches.

- ! A ***mechanical permit*** is required for installation of propane heaters where 100 gallons or more of propane will be stored.
- ! A ***plumbing permit*** is required for installation of natural gas heaters.
- ! A permit from the Virginia Department of Transportation (VDOT) is required prior to construction of a swimming pool on a lot located on a state road. This is required in order to use the VDOT right-of-way for heavy equipment.

## WHERE TO APPLY FOR PERMITS

Application for a building, electrical, mechanical and plumbing permit can be made at the Permit Application Center, OBCS, Herrity Building, 2nd floor, 12055 Government Center Parkway, Fairfax, Virginia 22035-5504, Mon. - Thu. 8:00 a.m. to 4:00 p.m., Friday 9:15 a.m. - 4:0 p.m., telephone **703-222-0801**.

Application for a VDOT permit can be made at the VDOT Permits Office at 3555 Chain Bridge Road, Fairfax, Virginia 22030, telephone **703-383-2888**.

## WHAT DO THE PERMITS COST

Call the Permit Application Center at **703-222-0801** to obtain information regarding the fee structure for a building permit.

After the building permit is issued, separate electrical, mechanical, and plumbing permits can be issued. Separate fees will be charged for each of these permits, based on the equipment listed on the permit applications. Call the Permit Application Center at **703-222-0801** to obtain information regarding the fee structure.

Call **703-246-2201** for information regarding Health Department fees, if applicable.

For the VDOT permit, a bond is required to cover any damage which may occur to the curb and driveway apron. Call VDOT at **703-383-2888** for more information.

## WHO SHOULD APPLY FOR PERMITS

You may secure the permits in your own name; however, if a contractor is to perform the work, Fairfax County strongly suggests that the contractor secure the permit and be listed on the permit as the party responsible for the work. In this way, the County will be in a better position to assist you in gaining compliance with codes if the work is defective. A contractor must be properly licensed in order to obtain a permit.

## WHAT TO BRING FOR THE PERMIT APPLICATION

### BUILDING PLANS

Two copies of the pool plans must be submitted. The plans must be scaled drawings showing all dimensions. The minimum acceptable scale is 1/8 inch = 1 foot and the following information must be included, if applicable.

- ! Method of pool discharge drainage, which may include underground storm sewer, curb and gutter along the street, or drainage ditch or swale.
- ! Materials specification.
- ! For an in-ground pool: wall sections with size and spacing of reinforcing steel.
- ! For an above-ground pool: two copies of the assembly instructions.
- ! In-ground pool plans are required to be prepared by a Professional Engineer or Registered Architect; at least one set of construction drawings must bear the **original** Professional Engineer's or Registered Architect's seal and signature. This set will be retained by the County.

**ALL DRAWINGS MUST BE PREPARED TO SCALE IN INK OR EQUAL ON SHEETS NO SMALLER THAN 11" x 17".**

### SOILS INFORMATION

Fairfax County contains many different types of soils that may affect the design parameters of your pool. The type of soil on your property is verified by the Site Permits Section as a part of the review process. There are two soil classifications that require additional information prior to the issuance of a building permit. They are:

- ! **Problem soils:** a problem soil is a soil type which may have a high water table, expansive clays, low bearing capacities, frost heave potential or other behavioral problems. If your property contains a problem soil, you may need to hire a geotechnical engineer to investigate the soil. In addition, the soil's behavior will have to be taken into consideration in the pool's design.
- ! **Unmapped soils:** the County contains areas where the soils have not been identified on the soil maps. If your property falls within one of these unmapped areas, you must hire a soil scientist to identify the soil or you must design the pool for a worst case soil situation. A helpful brochure, entitled "Residential Construction in Unmapped Soils Areas," is available at the Site Permits Section on the second floor of the Herrity Building.

When the proposed alteration requires a grading plan, soils information must be incorporated into the grading plan submission. Construction performed in problem soils and unmapped soils require a private geotechnical engineer to perform and certify all soil related inspections.

For more information or to determine if the soils on your property have been mapped, please contact the Site Permits Section at **703-324-1510**.

## HOUSE LOCATION PLATS

- ! Two copies of your house location plat are required to accompany a building permit application.
- ! Sketch, to scale, the area and location of the pool on the copies of the house location plat. Provide the distance from the pool to the lot lines and to the house. Show the location of construction equipment access from the street. Note the location of the pool discharge or backwash line to an approved storm sewer, drainage ditch or street.
- ! If you do not have a copy of your house location plat, a copy may be obtained from the Zoning Permit Review Branch located on the 2nd Floor, 12055 Government Center Parkway, Fairfax, Virginia 22035.
- ! If County easements are present on a lot, no construction shall encroach into the ground or air space of the easement.
- ! For some older homes, the Zoning Permit Review Branch may not have the house location plat. If this is the case, the record plat will suffice. However, all structures, dimensions, distances, etc., will have to be drawn on the lot. The record plat shows all subdivision dimensions, and is recorded in the Land Records of the Circuit Court and Records. Call the Zoning Permit Review Branch at **703-222-1082** for requirements.

## **WHAT IS THE PERMIT PROCESS**

### BUILDING PERMIT PROCESS

The review process begins when the plat and plans are complete and have been submitted, along with a building permit application, to the Permit Application Center on the second floor of the Herrity Building. The permit will be "logged in" a permit number will be assigned to identify the project and a plan tracking number will be assigned to identify the plans. The building permit application will be returned to you for obtaining the approval signatures from the applicable offices required for permit issuance; the permit technicians will direct you to the appropriate agencies. The signatures are placed on the lines adjacent to their corresponding departments as listed on the building permit application. The applicable departments for a swimming pool are listed below.

Most pools are eligible for the Walk-Thru Program. The Walk-Thru Program allows the permit holder to walk the plat, drawings and building permit application to the approving agencies for review with permits usually being issued on the same day.

- ! *Zoning*: the Zoning Permit Review Branch will sign off after the plat has been reviewed and approved for zoning-related issues.
- ! *Site Permits*: the Site Permits Section will sign off after the plat has been reviewed and approved for site-related issues. For all pools that are not shown on an approved grading plan, a site inspection is required prior to permit approval to ensure the proposed pool construction does not impact drainage patterns on the proposed lot or adjacent lots. A grading plan may be required as a result of this inspection. Site Permits will also determine compliance with the Chesapeake Bay Preservation Ordinance.

- ! *Health Dept.:* the Health Department will sign off after their review and approval of the plat for clearances to existing wells and/or septic tanks if they exist on the property.
- ! *Building Review:* the Building Plan Review Division will sign off only after all other signatures have been obtained and after the plans have been reviewed and approved.

### MECHANICAL, ELECTRICAL, AND PLUMBING PERMIT PROCESS

After the building permit is issued, separate electrical, mechanical and plumbing permits can be issued. Electrical, plumbing and mechanical permits do not require a plan submittal or review process. These permits can be obtained by you or by a licensed contractor hired to perform the work. Code compliance will be determined at the time of the inspection.

## **WHAT ARE THE SAFETY DEVICE REQUIREMENTS**

### STEPS AND LADDER REQUIREMENTS

At least one means of egress shall be provided from private swimming pools (see definition). Treads of steps and ladders shall have slip-resistant surfaces and handrails on both sides, except that handrails are not required where there are not more than four steps or where the steps extend the full width of the side or end of the pool. Treads and risers of the pool steps shall conform to the following.

1. Step treads shall have a minimum unobstructed horizontal depth of 10 inches and a minimum unobstructed surface area of 240 square inches.
2. Risers shall have a maximum uniform height of 12 inches as measured at the centerline of the tread. The height of the bottom riser shall not vary more than plus or minus 2 inches from the uniform riser height.

### POOL ENCLOSURE REQUIREMENTS

Definitions: **Barrier:** A fence, a wall, a building wall, the wall of an above-ground swimming pool or a combination thereof, which completely surrounds the swimming pool and obstructs access to the swimming pool.

**Private swimming pool:** Any structure that contains water over 24 inches in depth and which is used, or intended to be used, for swimming or recreational bathing in connection with a residential use occupancy and which is available only to the family and guests of the householder. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

An outdoor private swimming pool (see definition) shall be provided with a barrier (see definition) which shall comply with the following. (Spas or hot tubs with an approved safety cover and fixtures which are drained after each use are exempt from the following requirements.)

1. The top of the barrier shall be at least 48 inches above the finished ground level measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between finished ground level and the fence shall be 2 inches measured on the side of the barrier which faces away from the pool. Where the top of the pool structure is above finished ground level, such as an above-ground pool, the barrier shall be at finished ground level, such as the pool structure, or shall be mounted on the top of the pool structure. Where the barrier is mounted on the pool structure, the opening between the top surface of the pool frame and the bottom of the barrier shall not allow the passage of a 4 inch diameter sphere.
2. Openings in the barrier shall not permit the passage of a 4 inch sphere.
3. Solid barriers [brick or stone walls] shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches, the horizontal members shall be located on the pool side of the fence. Spacing between the vertical members shall not exceed 1 3/4 inches in width. Decorative cutouts shall not exceed 1 3/4 inches in width.
5. Where the barrier is constructed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more, spacing between vertical members shall not exceed 4 inches. Decorative cutouts shall not exceed 1 3/4 inches in width.
6. Maximum mesh size for chain link fences shall be a 1 1/4 inches square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1 3/4 inches.
7. Where the barrier is constructed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1 3/4 inches.
8. Access gates shall comply with the above requirements, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outwards away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches from the bottom of the gate: (a) the release mechanism shall be located on the pool side of the gate at least 3 inches below the top of the gate; and (b) the gate and barrier shall not have an opening greater than **2** inch within 18 inches of the release mechanism.

9. Where a wall of a dwelling unit serves as part of the barrier and contains a door that provides direct access to the pool, one of the following shall apply:
  - a. All doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The audible warning shall commence not more than 7 seconds after the door and door screen, if present, are opened and shall sound continuously for a minimum of 30 seconds. The alarm shall have a minimum sound pressure rating of 85dBA at 10 feet and the sound of the alarm shall be distinctive from other household sounds such as smoke alarms, telephones and door bells. The alarm shall automatically reset under all conditions. The alarm shall be equipped with manual means, such as touchpads or switches, to temporarily deactivate the alarm for a single opening from either direction. Such deactivation shall last for not more than 15 seconds. The deactivation touchpads or switches shall be located at least 54 inches above the threshold of the door.
  - b. All doors with direct access to the pool through that wall shall be equipped with a self-closing and self-latching device with the release mechanism located a minimum of 54 inches above the floor. Swinging doors shall open away from the pool area.
  - c. The pool shall be equipped with a power safety cover. Where in a closed position, the cover shall be capable of holding a weight of 485 pounds, shall not have any openings that allow passage of a 4<sup>2</sup> inch sphere and shall incorporate a system to drain standing water that collects on the cover. The cover control switch shall be permanently installed in accordance with the National Electrical Code and be key-operated and of spring-loaded or momentary-contact type. Where the switch is released, the operation of the cover shall stop instantly and be capable of reversing direction immediately. The switch shall be in the line of sight of the complete pool cover.
10. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a fixed or removable ladder or steps, the ladder or steps shall be surrounded by a barrier which meets the requirements of items 1 through 9 above. A removable ladder shall not constitute an acceptable alternative to enclosure requirements.
11. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.
12. Glass/glazing in walls or fences that has a bottom edge within 60 inches of a walking surface and is within 36 inches horizontally of a walking surface shall be safety-glazed.

#### **RECEPTACLES AND LIGHTING FIXTURES REQUIREMENTS**

All existing receptacles within 20 feet of the inside wall of a permanently installed pool must be ground-fault circuit-interrupter (GFCI) protected. No receptacles may remain within 10 feet of the inside walls of a pool. Existing lighting fixtures may not remain within 5 feet of a pool unless they are at least 12 feet above the maximum water level. Lighting fixtures between five and ten feet from the pool must be on GFCI protection. These safety requirements apply to the outdoor installation of hot tubs, as well as swimming pools.



## **WHAT ARE THE REQUIREMENTS FOR PUBLIC UTILITIES**

Call "Miss Utility" at **1-800-257-7777** before excavating to ensure that the construction does not interfere with underground utility lines. "Miss Utility" is a free service to anyone who is planning to excavate. Companies such as Dominion Virginia Power, Washington Gas, Columbia Gas, Verizon Communications, and Cox Cable support "Miss Utility" to prevent damage to their buried lines. Call at least 48 hours prior to excavating. The various companies will mark the path of underground utilities on the property. If you fail to contact Miss Utility and damage occurs, you will be liable for all costs of repair.

## **WHEN INSPECTIONS ARE REQUIRED**

Inspections are required by the VUSBC to ensure that the pool structure and the electrical, plumbing, and mechanical work and equipment conform to the approved plans and meet the intent of the VUSBC for structural and other safety considerations.

The number of inspections required varies depending on whether electrical, mechanical or plumbing installations are made. The Inspection Timing Checklist on the following page outlines the required inspection and the stage of construction in which the project should be prior to requesting an inspection.

**Please note:** any pool built in a problem soil is required to have all foundation inspections performed by a licensed private geotechnical engineer. See the Inspection Timing Checklist on the following pages or contact the Residential Inspections Division at **703-631-5101** for further information.

**A COPY OF THE APPROVED PLAT AND POOL PLANS MUST BE ON THE JOB SITE AND MUST BE AVAILABLE TO THE INSPECTOR DURING EACH INSPECTION OR NO INSPECTIONS WILL BE PERFORMED.**

## **WHEN AND WHERE TO CALL FOR INSPECTIONS**

Pursuant to the VUSBC, it is the responsibility of the permit holder or the permit holder's representative to notify the county when the stages of construction are reached that require an inspection. All ladders, scaffolds and test equipment required to complete an inspection or test shall be provided by the property owner, permit holder or their representative.

The Inspection Request Center's telephone number is **703-222-0455**. Please call between the hours of 8:00 a.m. and 4:20 p.m., Monday through Friday, except on county holidays. Please have your permit number available to give to the inspection request operator.

Customers may also use the telephone Automated Inspection Request System (AIRS), at **703-222-2474**, or Building Code Services Online, at [www.fairfaxcounty.gov/isisnet](http://www.fairfaxcounty.gov/isisnet), 24 hours a day, seven days a week, to schedule and cancel inspections. Requests made prior to 11:59 p.m. will be scheduled for the next workday.

**FOR FURTHER INFORMATION ON PERMIT REQUIREMENTS FOR SWIMMING POOLS, CONTACT THE PERMIT APPLICATION CENTER AT 703-222-0801. FOR FURTHER INFORMATION CONCERNING BUILDING CODE REQUIREMENTS, PLEASE CONTACT THE BUILDING PLAN REVIEW DIVISION AT 703-222-0114.**

## INSPECTION TIMING CHECKLIST FOR POOL CONSTRUCTION

TYPE OF INSPECTION	INSPECTION PERFORMED BY	WORK TO BE COMPLETED PRIOR TO INSPECTION REQUEST	APPROVAL REQUIRED PRIOR TO PROCEEDING WITH
Reinforcement Inspection	Residential Inspector	-After the excavated area is prepared for concrete. -All concrete forms must be in place. -Reinforced steel must be in place.	-Before placing concrete.
	Geotechnical Engineer (problem soils area)	-If the permit indicates a problem soil area (the word "soil" is marked on the permit application), a geotechnical engineer of record may be required.	
	Others (non-problem soils area)	-If the homeowner wishes a private engineer or architect is wanted to perform the inspection, contact the Chief of Residential Inspections Division at 703-631-5101 prior to the issuance of the permit.	
Electrical Inspection	Residential Inspector	-For all metallic parts of the pool structure, including the enforcing metal of the pool, shell, coping stone, deck and pool lights. -For the trenching, deck work and related items.	-Before placing concrete.
Plumbing Inspection (If natural gas heater is installed)	Residential Inspector	-The required inspections depend on the exact circumstances of the natural gas pool heater installation. A gas system or any part must not be enclosed, covered or put into operation until the plumbing concealment inspection has been approved.	-Before concealment
Mechanical Inspection (If propane pool heater is installed)	Residential Inspector	-The required inspections depend on the exact circumstances of the propane pool heater installation.	-Before concealment
Final Electrical Inspection	Residential Inspector	-All pumps, motors, fixtures, outlets, panels, switches, etc. must be installed. -All electrical wiring must be complete.	-Using any equipment, appliances, outlets, panels, switches, etc. -Electrical, mechanical, building, and plumbing finals may be done in any order.
Final Building Inspection	Residential Inspector	-All work on the approved plans must be complete, including final grading.	

**FAIRFAX COUNTY AGENCIES TO CONTACT  
FOR INFORMATION ON BUILDING AN ADDITION**

REQUIREMENTS FOR PERMITS	Permit Application Center Office of Building Code Services, DPWES 12055 Government Center Parkway Fairfax, Virginia 22035-5504 703-222-0801 <a href="http://www.co.fairfax.va.us/dpwes">www.co.fairfax.va.us/dpwes</a>
REQUIREMENTS FOR SEPTIC SYSTEMS/WELLS	Division of Environmental Health Department of Health 10777 Main Street Fairfax, Virginia 22030 703-246-2201 <a href="http://www.co.fairfax.va.us/service/hd">www.co.fairfax.va.us/service/hd</a>
REQUEST INSPECTIONS	Inspection Request Center Office of Building Code Services, DPWES 12055 Government Center Parkway Fairfax, Virginia 22035-5504 703-222-0455 (voice) 703-222-2474 (AIRS) <a href="http://www.co.fairfax.va.us/dpwes">www.co.fairfax.va.us/dpwes</a>
SUBDIVISION AND DEVELOPMENT RESTRICTIONS	Land Records Office The Jennings Building, (Judicial Center) Third Floor 4110 Chain Bridge Road Fairfax, Virginia 22030 703-591-8580
HOW TO PREVENT DAMAGE TO BURIED UTILITY LINES	"Miss Utility" (Free Service to the Permit Holder Who is Planning to Excavate) 1-800-257-7777
MINIMUM YARD REQUIREMENTS	Zoning Permit Review Branch Department of Planning and Zoning 12055 Government Center Parkway Fairfax, Virginia 22035-5508 703-222-1082 <a href="http://www.co.fairfax.us/gov/ocp">www.co.fairfax.us/gov/ocp</a>

**This document is available in an alternative format upon request. Please contact the ADA representative for the Department of Public Works and Environmental Services, Room 646,**

**the Herrity Building, 12055 Government Center Parkway, Fairfax, Virginia 22035-5502. Call 703-324-1828. Allow seven days for preparation of material.**